

**VIEW A-A**

FORMULA:  

$$\text{TAN } R = \frac{\text{TAN } A}{\text{TAN } B}$$

$$\text{TAN } C = \text{TAN } A * \text{COS } R$$
 or  

$$\text{TAN } C = \text{TAN } B * \text{SIN } R$$

A = 10°  
 B = 25°  
 R = 20.713°  
 C = 9.365°

**NOTES:**

1. IN THIS EXAMPLE A 10° ANGLE IS GROUND ACROSS, PART IS ROTATED AND A 25° ANGLE IS GROUND ACROSS. THE RESULTANT ANGLES ARE SHOWN BY R AND C.
2. SEE SHEET 2 FOR FORMULA DERIVATION.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES  
 TOLERANCES FOR BOTH SYSTEMS ARE:

ENGLISH:		METRIC:		ALL ANGLES
FRACTIONS	DECIMALS	DECIMALS		
± 1/32	.XX ± .01	XX ± 0.1		X ± .1°
	.XXX ± .002	X.X ± 0.01		.XX ± .05°
	.XXXX ± .0002			

**Raystown Precision Tool**  
 1822 Washington Street  
 Huntingdon, PA 16652

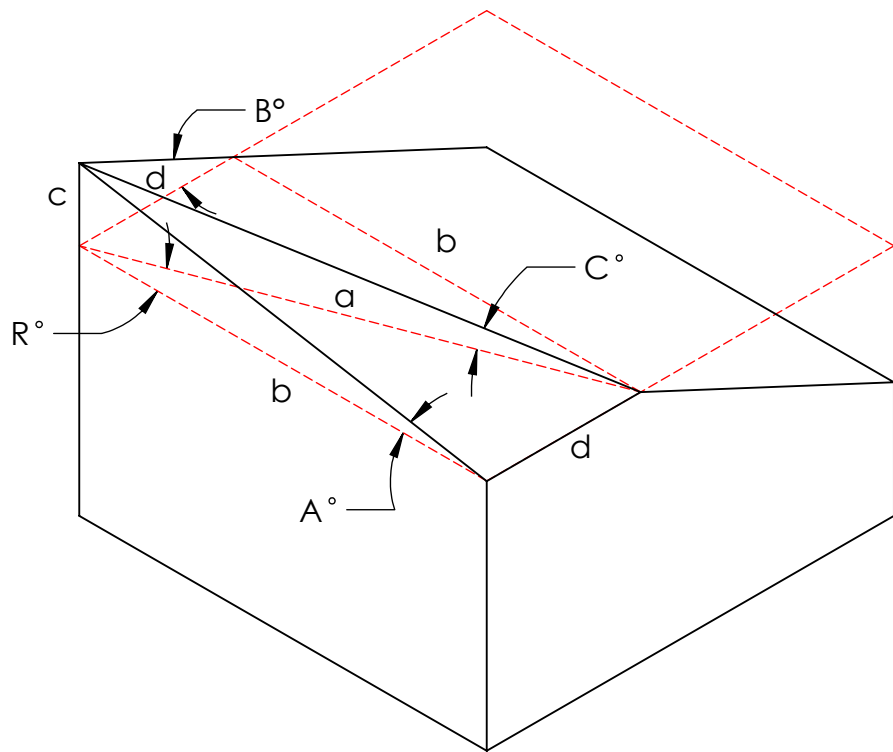
**SIDE SWIPE, COMPOUND ANGLE**

MATERIAL	XXXXXX		
FINISH	√ 32	DRAWN BY	DATE
		NWE	XX/XX/2015
DO NOT SCALE DRAWING	APPROVED	DATE	

SIZE	DWG. NO.	REV.
A	RPT2006	A
SCALE: XX	FILE:	SHEET 1 OF 2

A		Initial Release	NWE	4/15/15		
PART #	REV #	ECN	CHANGE DESCRIPTION	REV. BY	ECN DATE	CHECKED

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DERIVING THE FORMULA:

$$\text{TAN } C^\circ = \text{TAN } A \cdot \text{COS } R$$

$$\text{TAN } R^\circ = \frac{\text{TAN } A}{\text{TAN } B}$$

$$\text{TAN } A = c/b$$

$$\text{TAN } B = c/d$$

$$\text{TAN } R = d/b = \frac{c/\text{TAN } B}{c/\text{TAN } A} =$$

$$\text{TAN } R = \frac{\text{TAN } A}{\text{TAN } B}$$

$$\text{COS } R = b/a$$

$$\text{TAN } C = c/a = \frac{b \cdot \text{TAN } A}{b / \text{COS } R} = \text{TAN } A \cdot \text{COS } R$$

1. Sketch a plane parallel to base and located on the vertex of angle A as shown by red construction lines. Draw lines defining angle R and angle C.
2. Label each line segment appropriately.
3. Common sides must be used to solve to find angle R and angle C.

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FRACTIONS	DECIMALS	DECIMALS		
± 1/32	.XX ± .01	XX ± 0.1		X ± .1°
	.XXX ± .002	X.XX ± 0.01		.XX ± .05°
	.XXXX ± .0002			

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SIDE SWIPE, COUPOUND ANGLE

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SIZE	DWG. NO.	REV.
A	RPT2006	A
SCALE: XX	FILE:	SHEET 2 OF 2